

### LIQUID ELECTRICAL MICROSWITCH

A liquid electrical switch is disclosed that uses a plurality of droplets of conducting liquid to form an electrical path. In a first embodiment, at least a  
5 first voltage differential is used to create a separation distance between two droplets. The droplets are illustratively contained within a housing and surrounded by an immiscible, insulating liquid. In this embodiment, the at least a first voltage differential draws at least a portion of at least one of the droplets away from a second droplet, thus preventing electrical current from  
10 flowing from the at least one droplet to the second droplet. In another embodiment, the at least a first voltage differential is changed in a way such that at least one liquid droplet is made to come into contact with a second droplet, thus creating an electrical path between the two droplets.